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C E N T R A L I N T E L L I G E N C E A G E N C Y

OFFICE OF NATIONAL ESTIMATES

31 July 1962

DRAFT

MEMORANDUM FOR THE DIRECTOR

SUBJECT: Soviet Claims of a "Global Rocket" (Draft for Board Consideration)

Khrushchev's Claims

1. Three times in the past four months, Khrushchev publicly has claimed that the USSR has a "global rocket." * In making this claim, Khrushchev clearly wishes to refurbish the public image of Soviet strategic strength and to counter recent US assertions of confidence in its relative military position. At the same time, however, previous Khrushchev statements of this type have often proven to have some factual basis, although they frequently anticipate or magnify actual Soviet capabilities. This paper considers the possible devices or techniques to which Khrushchev could have been referring and assesses their problems and possibilities.

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* The relevant extracts from his statements appear at Annex.

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Group 1
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Extended-Range ICBM

2. Khrushchev's statements appear to refer to a missile capable of reaching US targets on a southerly trajectory and thereby avoiding BMEWS, although certain other possibilities cannot be excluded. Such a trajectory would require a range of about 16,000 n.m. To date we have not detected any missile testing or site construction, either at the test range or in the field, which we can relate to a program to develop such a weapon system.

3. The currently operational SS-6 ICBM probably could, with substantial modifications, deliver a 3,000 pound warhead to a range of about 16,000 n.m. on a ballistic trajectory. The CEP, however, probably would be degraded to at least 10 n.m. The modifications to the SS-6 required to overcome new heating and structural problems would require considerable testing. We would probably detect such testing with our current collection systems.

4. Of the second-generation ICBMs, we believe the SS-7 is too small to accomplish a southerly trajectory. The SS-8, which will probably become operational in 1963, may be a very large

vehicle. If it is, it is probably designed to carry warheads of up to 100 MT. In this event, it could probably be employed on global trajectories with a lighter payload (on the order of 7,000 pounds) and with an accuracy comparable to that of the SS-6. It is equally likely, however, that the SS-8 is a smaller vehicle and therefore not capable of performing this task.

5. Should the SS-8 turn out to be a small vehicle, we believe that the USSR will develop a large ICBM and space booster as a vehicle for very high yield payloads. Such a new ICBM, which would also be capable of delivering lesser payloads on southerly trajectories, would probably not be available until 1964 or later. For substantially improved accuracy at global ranges, the Soviets would have to develop and test some form of terminal guidance in the re-entry vehicle. The US would probably detect such testing.

Orbital Vehicle

6. It is possible that Khrushchev's statements refer to an orbital bombardment system. There is no evidence that the Soviets are working on such a system, and we believe that, because of factors of cost, accuracy, reliability, targeting flexibility, and vulnerability, this explanation of his remarks is less likely

than an extended-range ICBM. Nevertheless, the SS-6, in combination with the Venus upper stage, is probably capable of placing a 13,000 pound payload into a 300 statute mile orbit, and it could possibly de-orbit a ___ pound re-entry vehicle with a CEP on the order of _____ n.m. The SS-8, if it is very large, could also be used in such a role when it becomes operational, as could the future ICBM which is probably under development to carry very high yield warheads if the SS-8 is small.

Other Possibilities

7. The Soviets could also evade BMEWS by other means. They might fire an ICBM at an extremely low angle trajectory to pass under the area covered by BMEWS; this would impose severe heating and structural requirements on the missile. Or they might fire at an extremely high angle trajectory to pass above the area of BMEWS coverage; this would require either an increase in the power of the booster or a reduction in the payload. Further, they might seek to "curve" a missile around the BMEWS coverage, using some form of mid-course guidance. Test firings to date, however, have not suggested any attempts to develop such capabilities. Testing would in fact be required to develop a reliable operational capability along any of these lines, and we believe that our present means of collection would detect tests of these types.

8. The third of Khrushchev's statements refers to a "global rocket that cannot be destroyed by any antirocket means." The employment of ICBMs on southerly trajectories or of orbital bombardment vehicles would not provide immunity to interception by the Zeus anti-missile system, which is not dependent on BMEWS warning. It is possible that on this occasion Khrushchev was referring to sophisticated re-entry countermeasures for hindering the tasks of acquisition and discrimination in anti-missile defense. We think it likely that the Soviets are investigating such measures as reducing radar cross-sections for re-entry vehicles, increasing the separation distance between nose cone and tankage, employing decoys and other penetration aids, and detonating precursor nuclear blasts. We have little information, however, on their plans and progress in these fields, and we think it unlikely that Khrushchev was referring only to such measures in his statements on a "global rocket."

ANNEX

PERTINENT SOVIET STATEMENTS

On at least three occasions during the past four months, Khrushchev has claimed that the USSR possesses a global rocket:

(1) 16 March - in a pre-election speech in Moscow:

"Our scientists and engineers have created a new intercontinental missile which they call 'global'. This missile is invulnerable to antimissile weapons. The American military .... created a radar system ... with the aim of attempting to intercept rockets ... over the North Pole .... The new global rocket can fly around the world in any direction and deal a blow at any set target .... /The US system of detectors and other means of warning/ has now lost its meaning because rockets can arrive in US territory from an altogether different direction .... We can now fire .... not across the North Pole but in the opposite direction .... The missiles can fly in from the ocean or other directions where it is impossible to set up any means of warning. With the existence of a global missile, means of warning have in general lost their significance, because ICBMs or global missiles ... cannot be discovered in time ... to prepare for some action ... against these missiles."

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(2) 10 July - in an address to the World Peace Conference in Moscow: "In the interests of insuring the security of the Soviet Union, the USSR was forced to create in the last few years nuclear weapons of 50,100, and more megatons; intercontinental missiles, the global missile which practically eludes defense; and an anti-missile missile. The US circles, who do not have such powerful military equipment, have not the slightest basis for maintaining that the balance of forces has changed to their advantage."

(3) 16 July - to a group of US newspaper editors: "I am not boasting, but we actually have a global rocket that cannot be destroyed by any antirocket means, and I know, if anybody knows, what antirocket means are because we have them."